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INVESTIGATION USING DATA FROM ERTS  
TO DEVELOP AND IMPLEMENT  
UTILIZATION OF LIVING MARINE RESOURCES

PROJECT NO. 240

GSFC ID NO. CO 321

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TYPE I PROGRESS REPORT

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## 1.0 INTRODUCTION

This Progress Report is the fourth in a series under NASA/ERTS-1 Project No. 240, GSFC ID No. CO 321. The first report (Type I) was submitted on September 20, 1972, and covered the period from July 1 to August 31, 1972. The second report (Type I) was submitted on December 8, 1972, and covered the period from September 1 to November 5, 1972. The third report (combination Type I and Type II) was submitted on June 11, 1973.

The primary objective of this experiment is to demonstrate and establish the feasibility of utilizing satellite imagery to determine the availability and distribution of the adult Gulf menhaden B. patronus within Mississippi Sound and adjacent waters. Secondary objectives are: 1) determine the effectiveness and reliability of ERTS and aircraft RS data to provide fisheries significant coastal oceanographic information, and 2) ascertain the usefulness of these and other resource data for improving resource harvesting and management. Selected oceanographic, meteorological, and biological parameters are being used as indirect indicators of the source.

The study is being conducted through implementation of four subexperiments categorized as Utilization, Living Marine Resources, Oceanographic, and Aerospace. Synoptic sea-truth, fishery sampling and weather data, as well as photo and thermal IR imagery, have been acquired as data inputs, and a computer program is being utilized to manipulate these data according to user requirements.

Participants of this cooperative venture include various Federal, state and local government agencies, universities, and commercial groups. The experiment is producing correlations between satellite, aircraft, fisheries, and environmental sea-truth data. The resulting information is being used to facilitate development of minimum levels of effort required to obtain data for resource distribution studies, and to provide insight into areas of investigation applicable to RS as a tool for resource assessment and monitoring.

## 2.0 WORK SUMMARY

During the reporting period we have geared down our ERTS-1 efforts somewhat in response to our Skylab/EREP responsibilities; however, data analysis has been performed in a satisfactory manner during the time frame. Menhaden distribution prediction models are being formulated utilizing data acquired during our operational phase. New computer subroutines are being devised and utilized in response to user requests.

## 3.0 SCHEDULE STATUS

All scheduled activities, with one exception, are proceeding according to plan. The exception is the matter of monthly reports. This type of report is not being generated according to schedule; however, the situation is now being corrected.

## 4.0 WORK PROGRESS

During the reporting period, data analysis has continued along the lines developed by A. J. Kemmerer and J. A. Benigno. A number of menhaden distribution prediction models are in the process of being formulated. New computer subroutines are being developed to handle analysis requests from project participants.

## 5.0 PLANNED ACTIVITIES

During the next reporting period we plan to continue data analysis along the lines stated in Section 4.0. Mr. W. H. Stevenson and Mr. T. M. Vanselous are planning to deliver a paper titled "Remote Sensing Data Management from a User's Viewpoint" during the proceedings of the 19th Annual Meeting of the American Astronautical Society. The meeting will be held from June 19-21, 1973, in Dallas, Texas. Sections of the paper directly pertain to the methodology employed by NMFS/FEL to manage the ERTS-1 data applicable to our project requirements. Notification of the presentation, as well as formal copies of the paper, have been forwarded to the cognizant NASA personnel as stipulated under terms of our Contract.